REMARKS

Claims 6-14, 35-43, 64-72, and 122-130 are now pending in the application. Claims 146-166 have been withdrawn. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 6-8, 35-37, 64-66 and 122-124 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bar-Niv (U.S. Pat. No. 6,442,142) in view of Andra et el. (U.S. Pat. No. 6,883,025). This rejection is respectfully traversed.

With regard to claim 6, Examiner admits that Bar-Niv does not teach an energy saving circuit that powers down a physical layer and returns to a sense state when a timer times out.

With respect to Andra et al., Applicant can find no mention of an energy saving circuit that **powers down** a physical layer and returns to a sense state when a timer times out. Therefore Andra et al. fail to cure the deficient teachings of Bar-Niv.

As best understood by Applicants, Andra et al. use a single autonegotiation controller to autonegotiate multiple ports in a network device. The autonegotiation controller sequentially autonegotiates the ports of the network device. Andra et al. use a timer to account for the time elapsed during autonegotiation of the present port. If the timer times out before autonegotiation is complete, the autonegotiation controller suspends autonegotiation and **disables** the transmit state on the present port. **Andra et al. does not power down the physical layer as recited in Claim 6. Disabling a**

transmit state and powering down the physical layer are not equivalent. The autonegotiation controller proceeds to the next sequential port.

While Andra et al disables the transmit state of a port if autonegotiation fails, this merely disables the port. However, this is not the equivalent of powering down the physical layer and entering a sense state as recited in Claim 1. Since the physical layer of Andra remains powered with disabled transmit, the physical layer circuits will still dissipate power. **The transmit circuit as well as other circuits of the physical layer device will still consume power.**

Applicants believe that Claim 6 is allowable for at least the foregoing reasons. Claims 35, 64, and 122 are also allowable for at least similar reasons as Claim 6. Claims 7-8, 36-37, 65-66, and 123-124 each ultimately depend on claims 6, 35, 64, and 122 respectively and are therefore allowable for at least similar reasons.

Claims 9-12, 38-41, 67-70 and 125-128 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bar-Niv (U.S. Pat. No. 6,442,142) in view of Mills et el. (U.S. Pat. No. 6,795,450). This rejection is respectfully traversed.

With regard to claim 9, the Examiner admits that Bar-Niv does not teach a sense circuit that includes a timer that communicates with a transmitter and that is reset when a receive signal is generated by the sense circuit.

Applicants respectfully assert that Bar-Niv and Mills et al. are not properly combinable. Bar-Niv relates to operation when **the physical layer device is powered down** and a sense circuit senses activity on the medium. In contrast, Mills et al. relates to operation when **the physical layer is powered up** and generating one of fast link

pulses (FLP), link suspend pulses (LSP) and normal link pulses (NLP). These references are not combinable for this reason.

The Examiner has taken the teachings of Mills et al. out of context. As best understood, Mills et al. uses a counter to time the arrival rate of link suspend pulses (LSPs) when in a link suspend mode. If the time between LSPs is too long, the timer expires and a LSPRXOK flag is reset indicating that the remote link partner is disabled and the physical layer is reset back to a no-connect state. When in the no-connect state, Mills et al. send Fast Link Pulses (FLPs) in an attempt to renegotiate a connection to a link partner. **Applicants can find no mention of powering down the physical layer in Mills et al. In other words, the physical layer is powered on at all times.**

In both the link suspend state and the no-connect state, the physical layer is powered up so that they can interpret the type of pulses being received. The power savings appear to occur since the transmitter generates LSPs in link suspend mode rather than NLP or FLP, both of which occur more frequently and require more power. Therefore, the power savings appear to occur due to the less frequent operation of the transmitter.

This type of operation is not consistent with the operation of Bar-Niv. In Bar-Niv, the physical layer is powered down. Therefore, it will be unable to send FLP, LSP or NLP. Furthermore, once a link partner sends these types of pulses, the physical layer will be powered up.

For at least the foregoing reasons, Applicants believe that Claim 9 is allowable. Claims 38, 67, and 125 are also allowable for at least similar reasons. Claims 10-12,

39-41, 68-70, and 126-128 each ultimately depend on claims 9, 38, 67, and 125 respectively and are therefore allowable for at least similar reasons.

With respect to Claim 10, when the timer times out, the transmitter is turned on and generates a pulse. As recited in Claim 9, this timer is reset when the physical layer generates a receive signal when activity from a link partner is detected. When the timer times out (after a period during which the link partner does not generate activity and the physical layer is powered down), the transmitter is powered up and generates a pulse. With respect to Claim 11, after the transmitter generates the pulse, the transmitter is turned off and the sense circuit returns to the sense state where the physical layer is powered down.

Thus, Claim 9, 10 and 11 ties the operation of the timer with a sense state in which the physical layer is powered down. As set forth above, Mills et al. does not power down the physical layer. Therefore, Mills et al. is inconsistent with the operation set forth in Claims 9, 10 and 11 and with Bar-Niv.

Claims 13-14, 42-43, 71-72 and 129-130 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bar-Niv (U.S. Pat. No. 6,442,142) in view of Crayford (U.S. Pat. No. 5,610,903). These rejections are respectfully traversed.

With regard to claim 13, Examiner admits that Bar-Niv does not teach a switching circuit that senses a connection configuration of a second physical layer and that adjusts an MDI/MDIX connection configuration of a first physical layer to match the MDI/MDIX connection configuration of the second physical layer.

Crayford fails to cure the deficient teachings of Bar-Niv. Applicant can find no mention of a circuit that senses an MDI/MDIX connection configuration of a second

physical layer and that adjusts an MDI/MDIX connection configuration of a first physical layer to match the MDI/MDIX connection configuration of the second physical layer.

As best understood by Applicant, Crayford discloses a system and a method for an autonegotiation device to determine whether a second physical layer device has enhanced capabilities such as the ability to operate in a full duplex mode. The device switches between half and full duplex modes of operation depending on the capabilities of the second physical layer.

Applicant believes that Claim 13 is allowable for at least these reasons. Claims 42, 71, and 129 are also allowable for at least similar reasons. Therefore, reconsideration and withdrawal of the rejection is respectfully requested. Claims 14, 43, 72, and 130 each ultimately depend on claims 13, 42, 71, and 129 respectively and are therefore allowable for at least similar reasons.

OBJECTIONS

Claims 9, 13, 38, 42 and 67 are objected to because of informalities. The Examiner states these claims should be amended to include the appropriate corrections. Accordingly, Applicant has amended claims 9, 13, 38, 42 and 67 as requested by Examiner. In addition, Applicant has amended dependent claims 10, 12, 39, 41, 68, and 70 to reflect the changes made to claims 9, 38, and 67.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests

that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: <u>July 27, 2005</u>

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